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EXAMINER

ISSING, GREGORY C

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 01/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/979,564

Applicant(s)

BLOECHER, HANS

Examiner

Gregory C. Issing

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11/14/01.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following claim language fails to clearly and distinctly set forth the subject matter.

In claim 11, line 3, the language “in the sense of monopulse antenna” is not understood.

In claim 11, lines 3-4, the phraseology “the total antenna mean radiation pattern” is not understood nor does it have proper antecedent basis. Similar language exists throughout the claims with respect to “antenna mean radiation pattern”.

In claim 12, line 6 is not distinctly written with respect to “outputs of the antenna elements (8) and (9)” since the antenna elements (8) and (9) have not been previously set forth and it is unclear if the numerical representations are in fact a limiting feature and if so how. Additionally, lines 6-8 are not clearly written and it is not understood what is actually being claimed. Moreover, the description of the antenna elements (7) through (10) are not clear since it is not clear if the numerical data is limitative and if so how.

Claim 13 is indefinite since the language “the double switch” lacks a proper antecedent basis.

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In claim 16, the language “the calculated complete diagram of the antenna arrangement” is indefinite since it lacks a proper antecedent basis and it is not clear where this comes from or how it is derived.

In claim 17, line 3, the language “in the sense of a monopulse antenna” is not clearly understood. In line 4, the language “the common antenna mean radiation pattern” lacks a proper antecedent basis and is furthermore not distinctly claimed. In line 10, “the antenna arrays” lack a proper antecedent basis.

In claim 18, the language “the phase difference” and “the monopulse process” lack proper antecedent bases.

Claim 19 is not understood with respect to the language “so that the antenna diagram is deformed”. What is it deformed from and how does the driving of the antenna elements deform the beam, particularly in light of the fact that the antenna driving defines the antenna “diagram”. The process of “comparing” in lines 5-8 is not understood.

In claim 20, “the calculated complete diagram” lacks a proper antecedent basis. Where does this come from and how is it derived/determined?

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 11, 17, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Ammar et al.

Ammar et al disclose the subject matter as best understood including an antenna for transmitting and receiving and comprising antenna ports coupled to respective feed lines from a beamformer wherein the beamformer has switches and phase shifters for electronically switching among at least one sum beam and at least one difference beam. In view of the fact that *at least one* difference beam is defined, the formation of two difference beams is clearly anticipated.

5. Claims 11, 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Accoraci et al.

Accoraci et al disclose an antenna array that forms multiple switched beams wherein the antenna elements are coupled via a network of hybrid junctions, switches and phase shifters and wherein the antenna elements are selectively fed signals to provide the plurality of antenna patterns.

6. Claims 11, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kreinheder.

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Kreinherder discloses a monopulse switching system including an antenna that generates a sum pattern, an azimuth difference pattern and a further elevation difference pattern wherein the antenna elements are connected via network of hybrid junctions and a switch 50.

7. Claims 11, 17 and 18 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Smith.

Smith disclose a dual switch multimode array antenna wherein multiple beam patterns are electronically switched to provide various sum and difference patterns, see Figures 2-4, for example.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of the above-noted references in view of either one of Masak et al or Pierrot.

The above-noted primary references teach the subject matter substantially as claimed. As best understood, the feature of sidelobe cancellation is not specified therein. However, it is well-known for antenna systems to reduce/eliminate undesired sidelobes with the use of an additional antenna generating an anti-phased pattern in the sidelobe regions as set forth by either one of Masak et al or Pierrot. Thus, it would have been obvious to the skilled artisan to reduce/eliminate sidelobes using an additional antenna as set forth by either one of Masak et al or Pierrot.

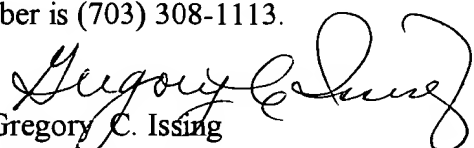
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10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sleeper, Jr. discloses a directional radio and tracking antenna system, see Figure 1, comprising sum and difference mode ports, a network comprising T junctions, hybrid junctions, and switched phase shifters. Kuhn disclose a monopulse radar antenna with a network of adjustable directional couplers for effecting beam pattern adjustments.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (703)-306-4156. The examiner can normally be reached on Mon-Thurs 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (703)-306-4171. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.



Gregory C. Issing  
Primary Examiner  
Art Unit 3662

gci  
January 23, 2003